## ELECTRICAL ENGINEER

#### **Electrical Engineer**

Electrical Engineers design and improve electronics. They supervise the manufacturing process as well as test equipment and solve problems. They work on machines such as generators, electrical motors, lighting controls and radar and directional systems. Electrical Engineers are also responsible for the wiring in buildings as well as the devices that create and send power. They usually work in offices, labs or industrial plants.

Education Requirements: Four-Year Bachelor's degree,
Master's degree,
Doctoral degree







#### Architect

Architects are licensed professionals trained in the art and science of building design. They plan, design and supervise the construction of all types of buildings, such as private homes, offices and factories. They turn ideas into images and plans. Although building appearance is important to them. Architects must also make sure buildings are safe, economical and ready to suit the needs of the people who will use them.

Education Requirements: Four-Year Bachelor's degree, Master's degree





#### INTERIOR DESIGNER

#### Interior Designer

Interior Designers develop ways to make the best use of interior space while at the same time making the space attractive. They plan interior spaces of almost every type of building, including offices, airport terminals, theaters, shopping malls, restaurants, hotels, schools, hospitals and homes. They draw upon many things to improve the safety, use and look of interior spaces. Making different colors, textures, furniture, lighting and space work together to meet the needs of the people who use the building is often a rewarding challenge for Interior Designers.

Education Requirements: Four-Year Bachelor's degree





#### **COST ESTIMATOR**

#### Cost Estimator

Cost Estimators develop the cost information that business owners or managers use when trying to win work contracts or deciding if a new product or project will make money. They analyze blueprints and other documents to prepare time, cost and labor estimates. Accurately forecasting the cost and length of future projects is very important to the survival of any business. Cost Estimators also determine which current projects are making money.

Education Requirements: Four-Year Bachelor's degree





# CONSTRUCTION MANAGER

#### **Construction Manager**

Construction Managers supervise construction projects from start to finish. They plan, direct and coordinate a wide variety of projects, including the building of all types of homes and businesses. These can include roads, bridges, water treatment plants, schools and hospitals. Construction Managers schedule and coordinate all design and construction processes, including the selection, hiring and supervision of trade contractors, but they usually do not do any actual construction of the structure themselves.

Education Requirements: Two-Year Associate's degree, Four-Year Bachelor's degree





#### ENGINEERING TECHNICIAN

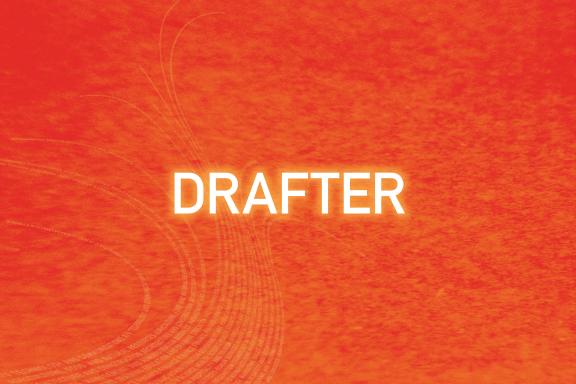
#### **Engineering Technician**

Engineering Technicians use science, engineering and mathematics to solve technical problems in research and development, manufacturing, sales, construction and maintenance. Many Engineering Technicians assist engineers and scientists in research by setting up equipment, conducting experiments, recording results or making examples of what something might look like. Others work to make sure products are made correctly by inspecting products and processes, conducting tests or collecting data. Engineering Technicians' work is more narrowly focused than that of scientists and engineers.

Education Requirements: Two-Year Associate's degree







#### Drafter

Drafters prepare technical drawings and plans of buildings, products and machinery. They create these drawings from the sketches and details given to them by engineers, architects and designers. These drawings are needed to build everything from manufactured products such as toys, toasters, industrial machinery and spacecraft to structures such as houses, office buildings and oil and gas pipelines. It is helpful to enjoy operating computers, working with details and spending the whole day drawing.

Education Requirements: High School diploma, Two-Year Associate's degree





# CONSTRUCTION AND BUILDING INSPECTOR

#### Construction and Building Inspector

Construction and Building Inspectors examine projects to make sure building rules have been followed. Whether it is a building, a highway, a sewer system or a bridge, they perform checks to guard the health and safety of the general public. They inspect the soil condition and position as well as the depth of support structures before construction begins. Building Inspectors also routinely examine a structure's fire sprinklers, alarms, smoke control systems and fire exits once the project is completed.

Education Requirements: High School diploma, Two-Year Associate's degree





# **ELECTRICIAN**

#### Electrician

Electricians help bring electricity into homes, businesses and factories. They install and maintain the wiring, fuses and other components through which electricity flows. They work with builders to determine the best way to disguise electrical wiring while making sure that it is safe. Many Electricians also install and maintain electrical machines in factories.

Education Requirements: High School diploma, Two-Year Associate's degree





# HEATING AND COOLING TECHNICIAN

#### Heating and Cooling Technician

Heating and Cooling Technicians work to keep temperatures comfortable in a variety of buildings and environments. They install, service and repair air-conditioning, refrigeration and heating units in homes, schools and other buildings. Because heating, air-conditioning and refrigeration systems often are referred to as HVACR systems, these workers also may be called HVACR Technicians. Due to the desire to quickly fix systems that stop working, Heating and Cooling Technicians may be required to work evenings and weekends.

Education Requirements: High School diploma, Two-Year Associate's degree





# **GLAZIER**

#### Glazier

Glaziers are responsible for selecting, cutting, installing, replacing and removing all types of glass. They use a variety of hand and power tools. They generally specialize in one of several types of projects. Some glazing involves work such as replacing glass in home windows, installing glass mirrors and doors or fitting glass for tabletops and display cases. Other glaziers work for businesses to install items such as heavy decorative room dividers or security windows.

Education Requirements: High School diploma





#### PLUMBER AND PIPE FITTER

#### Plumber and Pipe Fitter

Plumbers install and repair the water, drainage and gas systems in homes and businesses. Plumbers also install plumbing fixtures—bathtubs, showers, sinks and toilets—and appliances such as dishwashers and water heaters. Pipe Fitters install and repair both high-pressure and low-pressure pipe systems used in manufacturing, in the creation of electricity and in the heating and cooling of buildings. They also install automatic controls that are increasingly being used to help large systems use less energy.

Education Requirements: High School diploma





## BRICKMASON AND STONEMASON

#### Brickmason and Stonemason

Brickmasons and Stonemasons create attractive surfaces and structures that last for a long time. For thousands of years, these workers have built buildings, fences, roads, walkways and walls using bricks, concrete blocks and natural stone. The structures that they build will continue to be in demand for years to come. The work varies in difficulty, from laying a simple masonry walkway to installing detailed exteriors on tall buildings. Brickmasons and Stonemasons sometimes work under the direction of a construction manager or architect to complete a project.

Education Requirements: High School diploma





### CARPENTER

#### Carpenter

Carpenters use hand and power tools to construct, install and repair structures made of wood products according to building rules. They are involved in many different kinds of construction, from the building of highways and bridges to the building of kitchen cabinets. Some specialize in the making of furniture. Carpentry involves a significant level of work with your hands, outdoor work, creativity and attention to detail.

Education Requirements: High School diploma





## PAINTER AND PAPERHANGER

#### Painter and Paperhanger

Painters and Paperhangers work to beautify and protect interior and exterior surfaces. Painters apply paint, stain, varnish and other finishes to buildings and other structures. Paperhangers cover walls and ceilings with decorative wall coverings made of paper, vinyl or fabric. Some specialize in homes or business spaces while others partner with interior decorators to bring customers' visions to life.

Education Requirements: High School diploma



